

Networks of Centres of Excellence

The NCE Programs

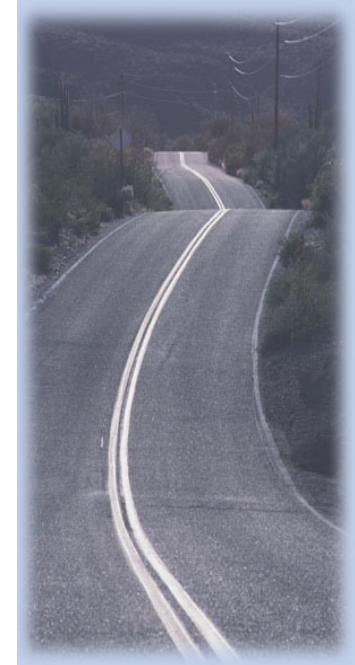
Mobilizing Canada's S&T Talent for Canada's Prosperity

- “Innovation from Cell to Society”
 - Allergen's Annual Meeting
 - Ottawa - February 15, 2009
- Jean-Claude Gavrel



Overview

- Today's Context
- NCE's track record
- Advantage Canada
- Expanded and Changed NCE



Innovation

Innovation is “the process through which new **economic and social benefits are extracted from knowledge.”**

(OECD definition)



(1) Leader's Roundtable on Commercialization, April 2006

Canada Ranks in Middle of Pack On Concentration of Highly Cited Scientists

	Highly Cited Scientists Per 1M Population
Switzerland	10.9
U.S.	9.9
U.K.	5.7
Sweden	5.3
Canada	4.3
Australia	4.3
Germany	2.5
France	1.9
Japan	1.5
Italy	0.9

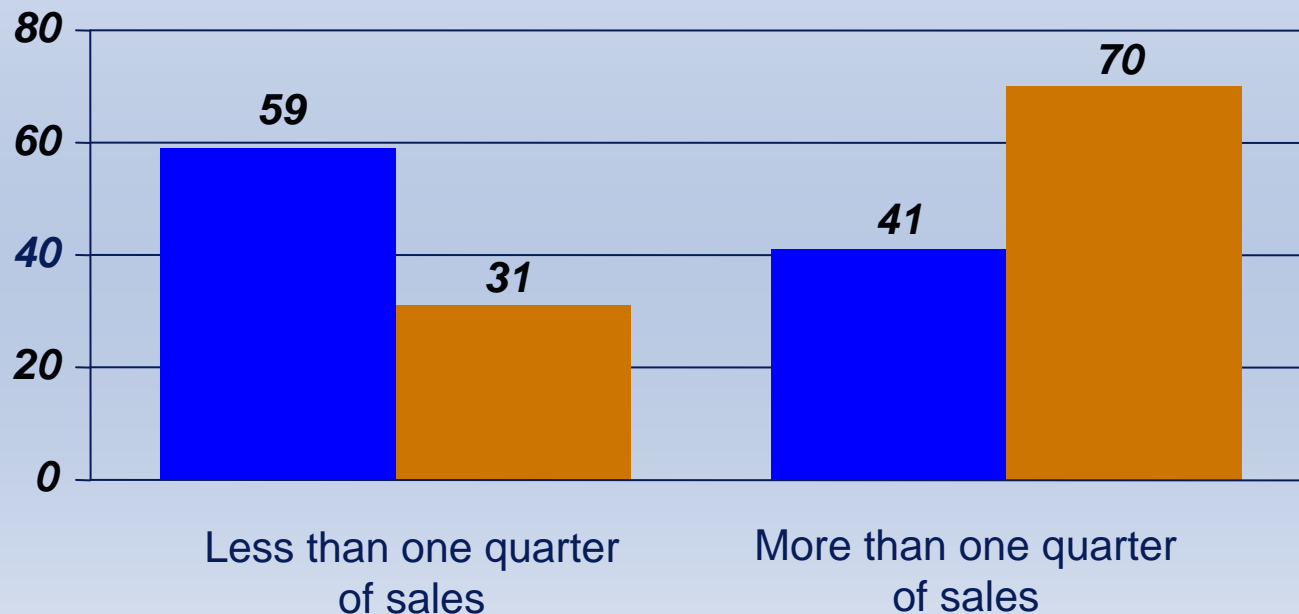


Source: The Boston Consulting Group

(1) Leader's Roundtable on Commercialization, April 2006

Canada lags in Innovation as measured by Sales from New or Improved Products

Canada vs. Europe (*per cent of firms*)



Note: Numbers may not add up, due to rounding

Source: CBoC; Statistics Canada, Survey of Innovation, 1999; Europe: CIS-2, Eurostat; Calculations by Pierre Mohnen and Pierre Therrien

Universities Central to Research in Canada

- At \$10B /year, universities represent 1/3 of Canada's total R&D expenditures (federal support approx. \$2.8B/ year)
- 1/3 of all R&D jobs.
- Universities train engineers, masters and Ph.Ds needed by industry, govt. and user sectors to carry out and apply R&D
- Masters and Ph.Ds create new spin-off companies



**Tabaret Hall,
University of Ottawa**



NCE program mandate since 1989

*“To **mobilize** Canada’s **research** talent in the **academic, private and public sectors** and **apply** it to the task of developing the **economy** and improving the **quality of life** of Canadians”*





How is the mandate achieved

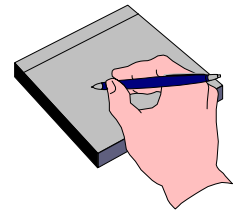
By investing in Networks and Centres of Excellence that meet five major objectives:

- Stimulate leading-edge research in areas of importance to Canada
- Build on nation-wide and international partnerships
- Develop and retain world-class research and research translation capabilities (People)
- Create innovative knowledge and technology transfer opportunities and mechanisms
- Manage research resources and programs

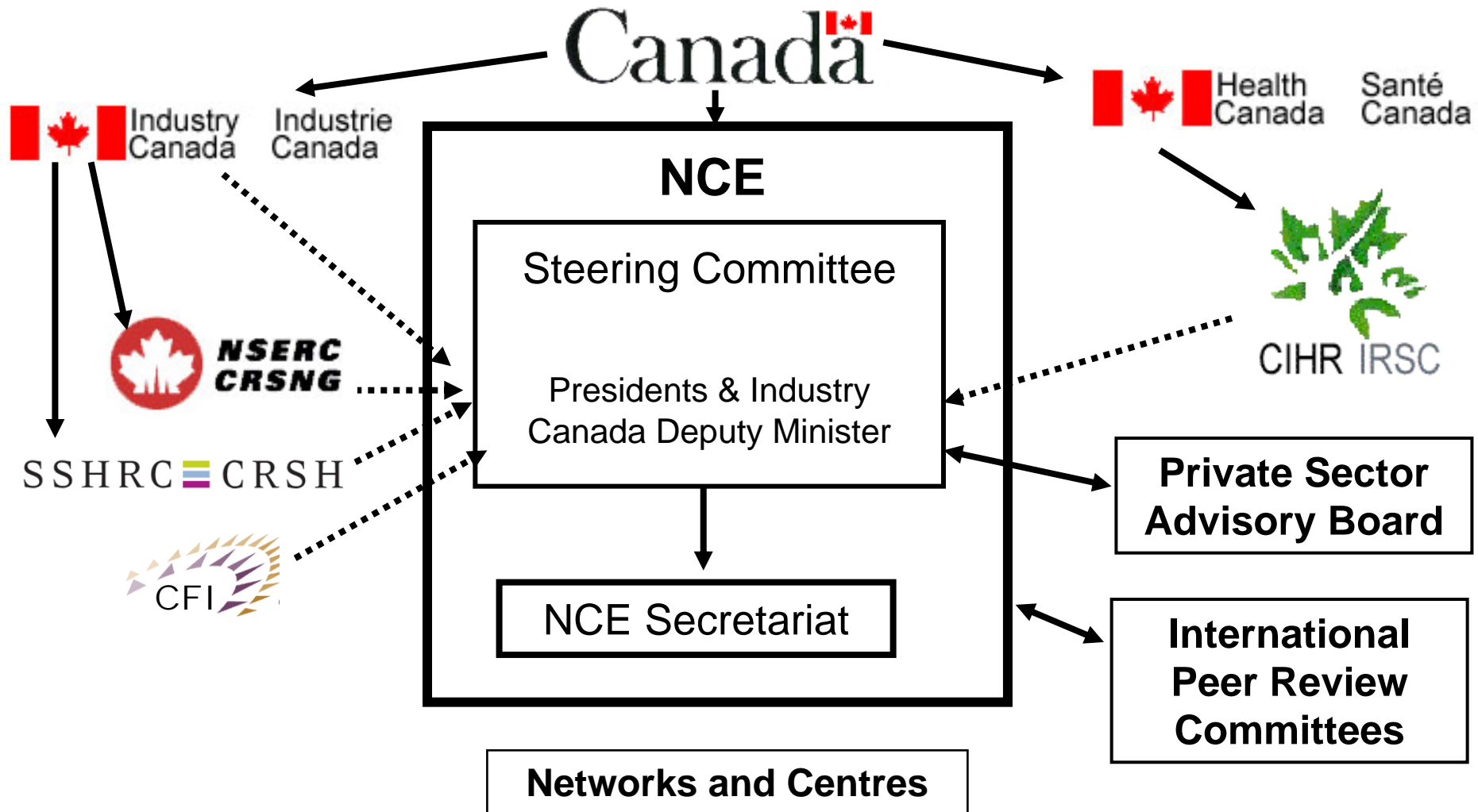


20 years of impact

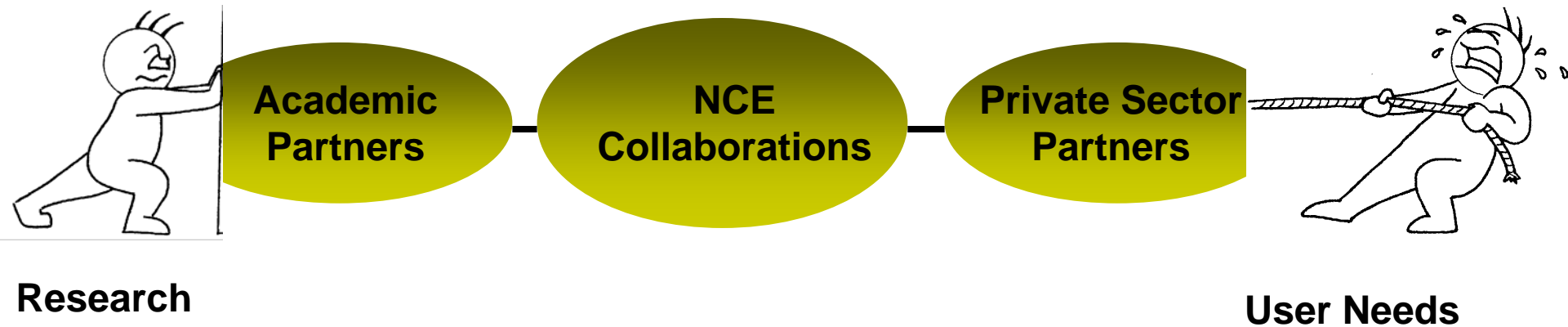
- 39 networks since 1989 (17 ongoing)
(ICT, health, environment, natural resources, engineering,...)
- Involvement of over 1,700 NCE partners annually
- 1000's of patents, 100's of licenses
- Over 150 spin-off companies
- Innovative training of students
(IP, entrepreneurship)
- Proof of concept support (TechnologyGAP, etc.)
- Policy and practice impacts (AB Forest Management, National Stroke Strategy)
- Support of government priorities



NCE Governance



The “Secret” of the Collaboration Model



Simultaneous Push-Pull



Canada's Federal S&T Strategy

Vision: building a sustainable national competitive advantage through S&T

Entrepreneurial Advantage

Translate knowledge into practical applications to improve our wealth, wellness and well-being

Knowledge Advantage

Build on research and engineering strengths, generate new ideas and innovations, and achieve excellence.

People Advantage

Grow the base of knowledge workers by developing, attracting and retaining highly-skilled people.

Core principles: Promoting World-Class Excellence, Focusing on Priorities, Fostering Partnerships, Enhancing Accountability



2007 S&T Strategy & NCE Secretariat

Three new programs to further address the "innovation gap" between valuable research results and the new, marketable products and services that drive economic growth:

Entrepreneurial Advantage through Public-private research and commercialization partnerships :

- Centres of Excellence for Commercialization and Research (CECR)
- Business-led NCE (BL-NCE)

Knowledge Advantage through opportunities for S&T graduates :

- Industrial R&D Internship program (IRDI)

Managed by the NCE Secretariat with the support of a **Private Sector Advisory Board (PSAB)**



Industrial R&D Internships

Goal: Introduce graduate students and post doctoral fellows to practical business problems

- 4-mth internships in private sector
- Modeled after MITACS internship program
- Offer industry opportunity to access world class research
- “Managed” program involving business development officers linking industry with students
- Cost shared with industry
- ACCELERATE Canada consortium of 13 NCEs (and other partners) announced April 16, 2008

(Note: 2009 Budget adds \$3.5M to reach 1000 interns/year)



Centres of Excellence for Commercialization and Research (CECR)

Goal: Create internationally recognized centres of commercialization and research

- 4 priority areas (Health, Energy/Natural Resources, ICT, Environment)
- Funds for operating and commercialization activities (75%/50%) cost-shared with partners
- 5 years; commercialization centres expected self-sustaining
- Evaluated through two-stage peer review involving a Private Sector Advisory Board
- Three criteria:
 - Benefit to Canada,
 - Track record/potential of applicants,
 - Business Plan



Seventeen CECRs

- Over 150 LOIs received in two competitions.
- Eleven launched March 2008 (approx \$163M)
- Six announced January 2009 (approx \$62M)
- Third competition expected late 2009 (\$tbd)
- Currently announced portfolio:
 - 8 health & life sciences
 - 2 ICT
 - 2 Environment
 - 1 Natural Resource/Energy
- Four to be announced shortly



Business-led NCEs (BL-NCE)

Goal: Increase industry R&D capacity through public-private collaborations

- Sector-driven/problem-driven research partnerships
- 5 priority areas (Health, ICT, Env, Nat.Res, Mgt-Bus-Fin)
- Focused on generating significant benefits for Canada
- Eligible research performers can include private sector
- Maximum 50% of research, commercialization and operating costs (co-funded by partners)
- Two stage peer review as for CECR (PSAB and three criteria)



Four Business-Led NCEs

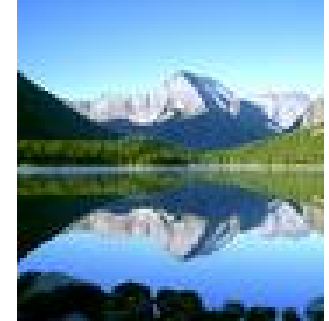
- 2009 competition results announced January
 - 36 LOIs received
 - 10 Full proposals invited
 - 4-year budget approx. \$40M
- Currently announced:
 - 1 Energy
 - 1 ICT
- Two more to be announced



Currently 17 Networks ...

- **Environmental science and technology**

- Arctic (ArcticNet)
- Clean water (CWN)

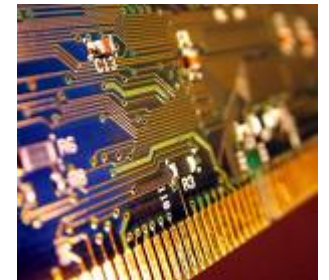


- **Natural resources and energy**

- Sustainable forestry (SFM)

- **Information/communication technologies**

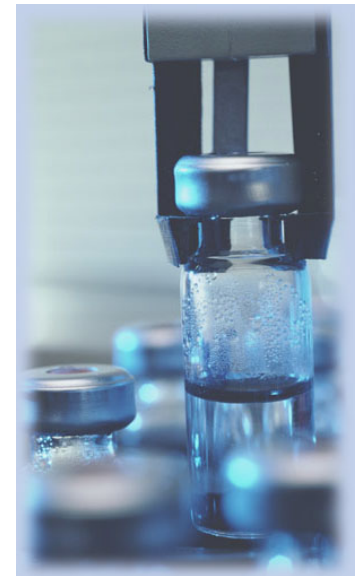
- Photonics (CIPI)
- Geomatics (GEOIDE)
- Mathematics (MITACS)



... Including 9 in Health/Human Development ...

•Health/life sciences and technologies

- Food and bio-materials (AFMNet)
- Allergies (AllerGen)
- Arthritis (CAN)
- Strokes (CSN)
- Prion diseases (PrioNet)
- Stem cells (SCN)
- Obesity (CON)
- Care of the elderly (NICE)
- Violence in relationships (PrevNet)



... and other sectors

- **Automotive and Manufacturing**

- Automobile of the 21st century (Auto21)

- **Infrastructure**

- Intelligent Sensing for Innovative Structures (ISIS)



A Suite of Programs

- **NCE** (\$82.4M per year)
 - Research-driven partnerships; longer-term goals
 - 2 x 7 years, Complete funding for research, admin, KT/TT
- **CECR** (\$163M-2008 competition; \$62M-2009 competition)
 - Public-private research & commercialization partnerships
 - 5 years funding for operating & commercialization (50%-75%)
- **BL-NCE** (\$46M over 4 years)
 - Private sector problem-driven research partnerships
 - 4 years for funding for research, admin, KT/TT (50%-75%)
- **Industrial R&D Internships** (\$8.5 M for first 2 years – will reach \$7M/year in 2009)
 - R&D terms for graduate & postdocs in industry setting
 - Cost shared @ 50%



New for 2009!

- A “**Renewed**” **NCE program** with a competition for 3-4 Networks (Competition budget:\$15M/ year) under new terms and conditions:
 - Focus on addressing **broad Canadian issues** using multi-faceted approaches
 - Emphasis on generating the **best partnerships** for effective knowledge translation and utilization
 - Need to demonstrate unique **value-added HQP training**
 - Networks must articulate **targets/milestones** and define performance indicators used for evaluation and reporting
 - Networks will be funded for up to **two 5-year terms plus a third “partner-driven”** one.

Note: Changes result from 2007 Evaluation and International Advisory Committee including extensive stakeholder consultation.



2009 NCE Target Areas

NCE Competition targeted in S&T and “STIC” subpriorities:

- **Health and related life sciences and technologies:**
 - regenerative medicine; neuroscience; health in an aging population; biomedical engineering; and medical technologies
- **Information and communication technologies:**
 - new media, animation and games; wireless networks and services; broadband networks; and telecom equipment
- **Environmental science and technologies:**
 - water (health, energy, security); cleaner methods of extracting, processing and using hydrocarbon fuels; including reduced consumption of these fuels
- **Natural resources and energy:**
 - energy production in the oil sands; Arctic (resource production, climate change adaptation, monitoring); biofuels; fuel cells; and nuclear energy



Summary of changes

	NCEs initiated prior to 2009	NCEs initiated as of 2009
Description	Collaborative virtual network that delivers a research program	
Performance objectives	Networks research-driven by discipline	Networks provide multifaceted solutions to complex challenges
Duration	<ul style="list-style-type: none"> . 7 years/term . renewable once 	<ul style="list-style-type: none"> . 5 years/term . renewable once . 3rd partner-driven term
Performance and reporting framework	Onsite Mid-term Reviews	Annual Progress Reports submitted for review
Research Area	Open or targeted competitions	2009 targeted to S&T priorities & STIC sub-priorities
Funding source	NCE funds flowing through the 3 granting agencies	
Research Providers	Mainly university labs, but partners expected to participate	



Competition Timeline

December 1, 2008

Competition Announced

Jan - Feb 2009

Information Sessions

March 2, 2009

LOI Submission Deadline

April 2009

Invitations for Full Applications

August 2009

Full Application Deadline

August - Sept 2009

Expert Panel Reviews

October 2009

New Networks Announced

Nov - Dec 2009

Funding Start



2008-09 NCE Annual Meeting

“Managing for Success: Innovation, Transition, Impact”

February 25-26, Winnipeg, Manitoba

Research Leaders and Executives from over 45 Networks, Centres, Business-Led and Agriculture Canada’s new ABIP Program invited to **share best practices in helping Canada’s Innovation capacity.**



Merci!

Thank you.



www.nce-rce.gc.ca



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